Lessons From Disaster

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Body

NEW ORLEANS -- We rarely do much to protect our cities until disaster strikes. We fool ourselves into thinking we are safe, until a catastrophic event shows us how wrong we are.

New York discovered that grim fact in Superstorm Sandy. Houston in Harvey. San Juan in Maria. And, of course, New Orleans after Katrina.

Cities that have been through a disaster learn one important lesson: "Nature wins."

That succinct message was delivered by Edward M. Emmett, the county judge for Harris County, Tex., which includes Houston, at the Cities for Tomorrow conference hosted last week by The New York Times.

The conference took place in New Orleans, which has experienced a remarkable recovery in the 13 years since Katrina. Despite 50 years of building hurricane protection around the city, its flawed flood walls and levees collapsed after the hurricane struck in 2005.

The Army Corps of Engineers would later acknowledge that it had built "a system in name only." Now, some $15 billion later, New Orleans is safer. One of the last major pieces of the puzzle came together this year with the completion of a pumping station at the mouth of the 17th Street Canal, where the flood walls breached so calamitously in Katrina.

But the city's new ring of protection could still be overwhelmed in major storms.

Other cities are still learning the lessons of New Orleans, and climate change is making the need to learn more urgent -- climate change stands out as one of the greatest challenges for cities around the world. The United Nations' most recent report on global climate laid out grim scenarios if the world's average temperature rises by 2 degrees Celsius (about 3.6 degrees Fahrenheit), or even 1.5 degrees, above preindustrial levels.

At 2 degrees, the Intergovernmental Panel on Climate Change warned, the pressure on cities could grow tremendously: 37 percent of the world's population would be exposed to the kind of severe heat that afflicted Southeastern Europe in 2007, and 411 million would face water scarcity, like this year's drinking water crisis in Cape Town.

Urban "heat island" effects could amplify the problems and increase the likelihood of disease, bringing migrations of climate refugees and further straining infrastructure.

Within the United States, the recently released Fourth National Climate Assessment suggests big problems for urban areas, with the incidence of daily tidal flooding "accelerating in more than 25 Atlantic and Gulf Coast cities"

thanks to sea level rise; that flooding has increased from five- to tenfold since the 1960s in many coastal cities. The other effects of climate change, including the ways it boosts droughts, floods and wildfires, would put more pressure on cities to adapt, mitigate the effects of climate change and become resilient.

At the conference in New Orleans, Judge Emmett took part in a panel with Carmen Yulín Cruz, the mayor of San Juan, Puerto Rico, and LaToya Cantrell, the mayor of New Orleans. The leaders agree that you can't fight nature in terms of the disasters that have hit their homes, but you can learn to accommodate it -- or, at least "Stay out of nature's way," as Judge Emmett says, and prevent building in areas that tend to flood.

Ms. Cantrell stressed the importance of understanding the complexity of the problem. "You have to look at storm water management as a system," she said. "You can't pump your way out of it; it's not just pumps and power." Instead, preparing for disasters and recovering from weather challenges require many different strategies, including "holding that rainwater, keeping the flow from going into the drains faster, raising your homes above the flood line."

Of course, Ms. Cruz says, understanding the challenge doesn't make it easy to address. "You have to sort of fly the plane and fix it at the same time."

The risk isn't restricted to the coasts. A new report on urban flooding from the University of Maryland and Texas A&M University found that urban flooding was not just a problem on the coasts, but a growing issue nationwide, with much of the flooding occurring outside of recognized 100-year floodplains.

With heavy downpours increasing because of climate change, the authors write, expect things to get worse. And while some of the fixes involve big-ticket infrastructure projects, many are simple matters like clearing existing drains, said Gerald E. Galloway, an author of the report. "It turns out you can do a lot of good things without having to bankrupt the community."

Many cities are rising to the call for action. The Rockefeller Foundation sponsors an initiative, 100 Resilient Cities, that encourages cities to appoint chief resilience officers to help take on a broad range of issues that include preparedness not just for earthquakes, fires and floods, but also to meet the social and economic challenges facing the nation.

In New York City after Sandy, things are moving forward on several levels, said Jainey K. Bavishi, director of the Mayor's Office of Recovery and Resiliency. The city's $20 billion plan includes upgrading buildings, hardening critical infrastructure and strengthening flood resistance along the 120-miles of coastline.

"We're focusing both on what we can do in the short term and investing in projects that can protect the city in the long term," she says. Those plans include, eventually, an immense, and expensive, surge barrier for New York Harbor to protect the city from future storms like Sandy.

That kind of protection does not come from the federal government alone; it is part of a partnership among local, regional and federal officials, local organizations, businesses and every citizen, says Don Riley, a retired major general and Corps of Engineers official now at the consulting firm Dawson & Associates. "It's a shared responsibility to reduce risk," he said. And part of that shared responsibility is admitting that infrastructure can do only so much.

He recalled that, as the work proceeded to rebuild the fortifications around New Orleans, President George W. Bush once asked him, "Will the people in New Orleans be safe?"

His answer, as he recalled it, was "They should be a lot safer," but added that there is no such thing as complete safety, which is why the corps changed the language of the city's hurricane defense from Hurricane Protection System to the unwieldy but more honest Hurricane & Storm Damage Risk Reduction System.

Planning for more resilient cities means planning for the needs of everyone. But those living in poverty, they note, often get left out of the process. The National Climate Assessment states, "People who are already vulnerable,

including lower-income and other marginalized communities, have lower capacity to prepare for and cope with extreme weather and climate-related events and are expected to experience greater impacts."

Atyia Martin, a former chief resilience officer for Boston, said that these issues of equity, usually brought together under the rubric of climate justice, were often treated as an afterthought instead of an essential element of resilience planning. In a disaster, pain is widespread, Dr. Martin said, but "the people who are suffering the most in day-to-day life are also the people who are suffering most when there's a disaster."

Members of the panel in New Orleans said they had seen the problem close up. Ms. Cantrell, who has spent years in community activism, says the rules regarding recovery can work against those of limited means, because recovery money is often tied to the value of a damaged home before a storm.

"Regardless of where you live, Sheetrock costs the same," she says, and so the income disparities grow worse even in the process of rebuilding. She recommends "gap financing" to address the issues and to keep gentrification from driving people out of their neighborhoods.

Ms. Cruz said disaster recovery meant engaging in a battle over gentrification, as well. People living in poverty can be displaced in a recovery as speculators buy inexpensive land hoping to make a score.

The most important message of rebuilding, Ms. Cruz said, is "making sure people understand that they can come back, that this is their home."

https://www.nytimes.com/2018/12/13/us/cities-prepare-to-face-new-disasters.html

Graphic

PHOTOS: Clockwise from top, smoke from a fire hovers over downtown New Orleans after Hurricane Katrina

the 17th Street Canal pumping station on the edge of Lake Pontchartrain

the pump room at the station

devastation in San Juan, P.R., after Hurricane Maria

and Trey Holladay herding horses west of Houston after Hurricane Harvey. (PHOTOGRAPHS BY VINCENT LAFORET/THE NEW YORK TIMES

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